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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/878,920

06/13/2001

Metaxas Gamvrelis

839-954

2278

30024

7590

10/28/2003

NIXON & VANDERHYE P.C./G.E.

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SUITE 800

ARLINGTON, VA 22201

EXAMINER

WEST, JEFFREY R

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,920

Applicant(s)

GAMVRELIS ET AL.

Examiner

Jeffrey R. West

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "P2-2" (page 8, line 26). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "6", "31", "34", "35", "36", "37", and "41". A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-5, 7-10, 13-15, 17-21 and 23 are rejected under 35 U.S.C. 103(a) as

being unpatentable over U.S. Patent No. 6,577,961 to Hubbard et al. in view of U.S. Patent No. 6,535,369 to Redding et al.

Hubbard discloses an energy meter having programmable functions including a first system for receiving input data from a plurality of field transformers each corresponding to a respective circuit phase (Figure 1 and column 5, lines 24-28), a digital signal processor system coupled to the first system, and a microprocessor system coupled to the digital signal processor system (column 5, lines 18-23 and Figure 1, "14" and "16"), wherein the first system in combination with the digital signal processor system and the microprocessor system performs metering (column 5, lines 39-46), power quality (column 8, lines 19-23), through normal harmonic analysis (column 13, lines 39-43 and table 3), digital fault recording (column 8, lines 4-18), and supervisory control and data acquisition functions (column 10, line 60 to column 11, line 7).

As noted above, the invention of Hubbard teaches many of the features of the claimed invention and while the invention of Hubbard teaches performing metering functions on data input through a plurality of corresponding sensing transformers, Hubbard does not specifically disclose a plurality of switching circuits coupled to each transformer and further adapted to switch to multiple positions depending on whether the current of the transformer is in a metering range or an overcurrent range.

Redding teaches an adaptive surge suppressor and high voltage transient protector (column 2, lines 41-50) including a sensor (column 5, lines 50-51), such as

a current transformer (column 6, lines 15-17), and a plurality of switching circuits, each circuit coupled to a respective sensing transformers (i.e. an AC subsystem) (Figure 3) and further adapted to switch to multiple positions depending on whether the current flowing through a primary circuit of a respective transformer is in a normal range or an overcurrent range (column 5, line 51 to column 6, line 2). Redding also teaches including in the circuitry a suppressor element (column 5, line 53), such as a metal oxide varistor (column 4, line 52).

It would have been obvious to one having ordinary skill in the art to modify the invention of Hubbard to include a plurality of switching circuits coupled to each transformer and further adapted to switch to multiple positions depending on whether the current of the transformer is in a normal/metering range or an overcurrent range, as taught by Redding, because, as suggested by Redding, the combination would have provided a method for protecting an electrical equipment, such as the meter of Hubbard, from high energy transient voltage events in a method that provides continual protection while warning the user of the event thereby giving the user adequate time to fix the device (column 1, lines 6-15 and column 2, lines 41-50).

5. Claims 6, 11, 12, 16, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubbard et al. in view of Redding et al. and further in view of U.S. Patent No. 5,734,256 to Larsen et al.

As noted above, the invention of Hubbard and Redding teaches all of the features of the claimed invention except for specifically including a diode mirror for providing crowbar protection against signals that are higher in absolute value than the supply voltage.

Larsen teaches an apparatus for protection of power-electronics in series compensating systems comprising a conventional metal oxide varistor and bypass breaker combination on the line side of a coupling transformer and a solid-state thyristor shoring crowbar switch, using a diode mirror, that provides crowbar protection against signals that are higher in absolute value than the supply voltage (abstract and column 3, lines 2-7).

It would have been obvious to one having ordinary skill in the art to modify the invention of Hubbard and Redding to specifically include a diode mirror for providing crowbar protection against signals that are higher in absolute value than the supply voltage, as taught by Larsen, because, as suggested by Larsen, the combination would have provided a method for preventing damage to the apparatus needing protection by controlling large current flows that can occur during fault conditions (column 1, lines 30-45 and column 2, line 67 to column 3, line 12).

Response to Arguments

6. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,404,348 to Wilfong teaches a modular power quality monitoring device.

U.S. Patent No. 4,562,506 to Moran teaches a distribution line powered switchgear control.

U.S. Patent No. 4,819,125 to Arinobu et al. teaches an overcurrent detector.

U.S. Patent No. 3,846,698 to Lawton teaches an overcurrent events monitoring system.

JP Patent No. 03-293996 to Miura teaches an overcurrent detecting circuit for three-phase AC machine.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (703)308-1309. The examiner can normally be reached on Monday through Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703)308-1677. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2857

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

jr
October 14, 2003


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800